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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,145	09/04/2001	Yim Bun Patrick Kwan	P 282824 P-0207.010-US	9095

909 7590 06/05/2003

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EXAMINER

KIM, PETER B

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,145

Applicant(s)

KWAN ET AL.

Examiner

Peter B. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: On page 9, instead of "course," "coarse" seems to be more appropriate.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, and 5-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishi et al. (Nishi) (6,341,007).

Nishi discloses in Fig. 1-4, a lithographic projection apparatus and a method for calibrating a lithographic projection apparatus comprising a radiation system (40), a first object table (RST) to support patterning structure (R), a second object table to hold substrate (WS1, WS2), a projection system (PL), identifying a set of two or more reference positions of an object table (WS1, WS2) with a first detection system (24a) with a first position measuring system of interferometer system (16, BI1X); identifying the reference positions of the object table with a second detection system (24b) with a second position measuring system of interferometer system (18, BI2X) and a processor (90) correlating the first and second position measuring system using the measurement of the reference positions (col. 45, line 37 – col. 46, line 3, col. 55, lines 43-64,

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and col. 56, line 52 – col. 59, line 67). Nishi also discloses reference positions identified by detecting at least two marks (Fig. 20A, MK1, 2, 3) provided to the object table. Nishi discloses identifying the reference positions by detecting an aerial image of a mark by at least two image sensors (col. 46, line 55 – col. 47, line 48). Nishi discloses applying the calibration method for every substrate processed (col. 78, line 37-44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al. (Nishi) in view of Taniguchi et al. (Taniguchi) (6,151,122).

Nishi discloses the claimed invention as discussed above; however, Nishi does not disclose reference position identified by detecting marks on a workpiece and the mark is a diffractive mark. Taniguchi discloses in Fig. 9(c) and col. 24, lines 47-65, reference marks (506, 507) located on a workpiece and diffractive marks which are used to indicate position of the marks. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the reference marks of Taniguchi to the invention of Nishi in order to accurately obtain the position of the marks with respect to the detector as taught by Taniguchi in col. 24, lines 58-65.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Kim whose telephone number is (703) 305-0105. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays during the same hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams, can be reached on (703) 308-2847. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Peter B. Kim
Patent Examiner
May 30, 2003